

Please add the following new claims:

22. (newly added) A method according to Claim 1 wherein said step of predicting a roll rate further comprises predicting the accounts in the group of loans that will be rolled forward into an n-month delinquency, wherein n is an integer greater than zero and represents a number of months for which one of the customers has been delinquent in making a payment.

23. (newly added) A method according to Claim 1 wherein said step of calculating a probability further comprises calculating a probability that an event will occur impacting payment of at least one account within the group of loans wherein the event includes at least one of a change in political climate, an increase in interest rate, and a natural disaster.

24. (newly added) A system according to Claim 7 wherein the event includes at least one of a change in political climate, an increase in interest rate, and a natural disaster.

25. (newly added) A computer according to Claim 15 wherein the event includes at least one of a change in political climate, an increase in interest rate, and a natural disaster.

#### Remarks

The Office Action mailed February 5, 2003 has been carefully reviewed and the foregoing amendment has been made in consequence thereof. Submitted herewith is a Submission of Marked Up Claims.

Claims 1-25 are now pending in this application. Claims 1-21 stand rejected. Claims 1, 4, 6, 7, 10, 11, 12, 13, 15, 18, 19, 20, and 21 have been amended. Claims 22-25 have been newly added. No new matter has been added.

A fee calculation sheet for the newly added claims along with authorization to charge a deposit account in the amount of the calculated fee are submitted herewith. Additionally, in accordance with 37 C.F.R. 1.136(a), a one-month extension of time is submitted herewith to extend the due date of the response to the Office Action dated February 5, 2003 for the above-identified patent application from May 5, 2003 through and including June 5, 2003. In

accordance with 37 C.F.R. 1.17(a)(2), authorization to charge a deposit account in the amount of \$110.00 to cover this extension of time request also is submitted herewith.

The rejection of Claims 1-21 under 35 U.S.C. § 103(a) as being unpatentable over McCauley et al. (U.S. Patent No. 6,067,533) ("McCauley") in view of Rosenwald (U.S. Patent No. 6,038,550) and further in view of Stout, Jr. et. al. (U.S. Patent 5,878,404) ("Stout") is respectfully traversed.

Applicant respectfully submits that none of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest the claimed invention. As discussed below, none of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest calculating a probability that an event will occur impacting payment of at least one account within the group of loans, and predicting a roll rate into a next level of delinquency based upon a payment history of each account in the group of loans and based upon the calculated event probability.

McCauley describes a system for selecting a business plan for nonperforming real estate loans (see column 2, lines 64-67). A first step is for the system to obtain information on specific parameters of a loan and a borrower's financials including property information, personal information on the borrower, personal financial information of the borrower on a monthly basis, assets of the borrower, as well as number of unpaid loan payments (see column 7, lines 1-15). The system also generates a model for a loan modification option that includes a comparison along a scale (110) (see column 7, lines 19-21). The scale is a scale of potential rates of return for a lender in connection with options for dealing with nonperforming loans, including "Default Rate", "Minimum Rate" and "Current Rate" (see column 4, lines 55-60). The "Default Rate" comes from a "Real Estate Owned" (REO) model that determines the lender's likely costs associated with a foreclosure based in part on the lender's past experience with similar foreclosures and in part on information on a property (see column 5, lines 1-5). The "Minimum Rate" accounts for a proposed sale prices of the property with a sale of the property to occur sooner than a sale in the foreclosure (see column 5, lines 37-39). The "Current Rate" is a rate of return corresponding to a current interest rate on new, non-distressed loans purchased by the lender (see column 5, lines 40-42). The system analyzes the generated loan models with

predetermined rules of a loan experience database (see column 7, lines 22-24). After a user reviews the analyze sheet with loan model information, the system generates a business plan consistent with the lender's selection (see column 7, lines 33-35).

Rosenwald describes a method and apparatus for managing interest on time deposits, loans, and financial instruments whose value changes over time (see column 1, lines 10-13). Each day an operator enters the day's date (J) and an interest factor (K) for that date into an interest factor memory 24 via a video display window (14c) (see column 7, lines 3-6). The interest factor is the interest rate for the one day (see column 7, lines 6-7). Each time a new date and interest factor are stored in a location in an interest factor memory (24), a processor (12) calculates a compounding factor (M) and an aggregate factor (L) which are stored with the interest factor (see column 7, lines 7-10). The processor also recalculates any compounding factors and aggregate factors for previous days and updates these factors in the interest factor memory (see column 7, lines 11-13). A principal amount is multiplied by an updated aggregate factor to update an interest value in the interest value memory (see column 7, lines 55-58).

Stout describes a method for managing the amortization of a loan to a debtor that includes the steps of (i) storing in a memory data identifying the debtor, the amount of the loan to the debtor, the principal balance of the loan, an initial rate of interest payable on the principal balance of the loan and the term of the loan, (ii) recording in memory information identifying time payments received from the debtor for principal and interest on the loan as the payments are made, (iii) tracking the reduction in the principal balance of the loan and storing in the memory the principal balance in response to the time payments, (iv) resetting the initial rate of interest on the principal balance to a new rate of interest in response to the debtor's election, and (v) maintaining the initial rate of interest for the balance of the term of the loan in the absence of the debtor's election and resetting of the rate of interest (see column 3, lines 7-22).

Claim 1 recites a method for determining roll rates for a group of loans, the method including the steps of "generating delinquency moving matrices for the group of loans...calculating a probability that an event will occur impacting payment of at least one account within the group of loans...and predicting a roll rate into a next level of delinquency

based upon a payment history of each account in the group of loans and based upon the calculated event probability."

None of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest the method recited in Claim 1. More specifically, none of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest calculating a probability that an event will occur impacting payment of at least one account within the group of loans, and predicting a roll rate into a next level of delinquency based upon a payment history of each account in the group of loans and based upon the calculated event probability.

Rather, in contrast to the present invention, McCauley describes obtaining information on specific parameters of a loan and a borrower's financials, generating a model for a loan modification option, analyzing the generated loan models with predetermined rules of a loan experience database, and generating a business plan consistent with the lender's selection; Rosenwald describes a method and apparatus for managing interest on loans whose value changes over time; and Stout describes recording in memory information identifying time payments received from a debtor for principal and interest on a loan as the payments are made, and tracking the reduction in the principal balance of the loan and storing in the memory the principal balance in response to the time payments. Accordingly, Applicant respectfully submits that Claim 1 is patentable over McCauley in view of Rosenwald and further in view of Stout.

For at least the reasons set forth above, Applicant respectfully submits that Claim 1 is patentable over McCauley in view of Rosenwald and further in view of Stout.

Claims 2-6 depend, directly or indirectly, from independent Claim 1 which is submitted to be in condition for allowance. When the recitations of Claims 2-6 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claims 2-6 are also patentable over McCauley in view of Rosenwald and further in view of Stout.

Claim 7 recites a system for determining a roll rate of a loan portfolio, the system including "at least one computer...a server configured with a roll rate determination model...said server configured to: generate delinquency moving matrices...calculate a probability that an event will occur impacting payment of at least one account within a group of loans...and predict

which accounts will roll forward into a next classification of delinquency based upon a payment history of each account in the group of loans and based upon the calculated event probability...and a network connecting said computer to said server."

None of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest the system recited in Claim 7. More specifically, none of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest a server configured to calculate a probability that an event will occur impacting payment of at least one account within a group of loans, and predict which accounts will roll forward into a next classification of delinquency based upon a payment history of each account in the group of loans and based upon the calculated event probability.

Rather, in contrast to the present invention, McCauley describes obtaining information on specific parameters of a loan and a borrower's financials, generating a model for a loan modification option, analyzing the generated loan models with predetermined rules of a loan experience database, and generating a business plan consistent with the lender's selection; Rosenwald describes a method and apparatus for managing interest on time deposits, loans, and financial instruments whose value changes over time; and Stout describes recording in memory information identifying time payments received from a debtor for principal and interest on a loan as the payments are made, and tracking the reduction in the principal balance of the loan and storing in the memory the principal balance in response to the time payments. Accordingly, Applicant respectfully submits that Claim 7 is patentable over McCauley in view of Rosenwald and further in view of Stout.

For at least the reasons set forth above, Applicant respectfully submits that Claim 7 is patentable over McCauley in view of Rosenwald and further in view of Stout.

Claims 8-14 depend, directly or indirectly, from independent Claim 7 which is submitted to be in condition for allowance. When the recitations of Claims 8-14 are considered in combination with the recitations of Claim 7, Applicant submits that dependent Claims 8-14 are also patentable over McCauley in view of Rosenwald and further in view of Stout.

Claim 15 recites a computer for determining a roll rate of a loan portfolio, the computer programmed to “generate delinquency moving matrices...calculate a probability that an event will occur impacting payment of at least one account within a group of loans...and predict which accounts will roll forward into a next classification of delinquency based upon a payment history of each account in the group of loans and based upon the calculated event probability.”

None of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest the computer recited in Claim 15. More specifically, none of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest a computer programmed to calculate a probability that an event will occur impacting payment of at least one account within a group of loans, and predict which accounts will roll forward into a next classification of delinquency based upon a payment history of each account in the group of loans and based upon the calculated event probability.

Rather, in contrast to the present invention, McCauley describes obtaining information on specific parameters of a loan and a borrower’s financials, generating a model for a loan modification option, analyzing the generated loan models with predetermined rules of a loan experience database, and generating a business plan consistent with the lender’s selection; Rosenwald describes a method and apparatus for managing interest on time deposits, loans, and financial instruments whose value changes over time; and Stout describes recording in memory information identifying time payments received from a debtor for principal and interest on a loan as the payments are made, and tracking the reduction in the principal balance of the loan and storing in the memory the principal balance in response to the time payments. Accordingly, Applicant respectfully submits that Claim 15 is patentable over McCauley in view of Rosenwald and further in view of Stout.

For at least the reasons set forth above, Applicant respectfully submits that Claim 15 is patentable over McCauley in view of Rosenwald and further in view of Stout.

Claims 16-21 depend, directly or indirectly, from independent Claim 15 which is submitted to be in condition for allowance. When the recitations of Claims 16-21 are considered in combination with the recitations of Claim 15, Applicant submits that dependent Claims 16-21 are also patentable over McCauley in view of Rosenwald and further in view of Stout.

In addition to the arguments set forth above, Applicant also respectfully submits that the Section 103 rejections of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify McCauley using the teachings of Rosenwald and Stout. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combinations. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levingood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicant's disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

None of McCauley, Rosenwald, or Stout, considered alone or in combination, describe or suggest the claimed combination. Rather, the section 103 rejection of Claims 1-21 over McCauley in view of Rosenwald and further in view of Stout appears to be based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, McCauley teaches obtaining information on specific parameters of a loan and a borrower's financials, generating a model for the loan modification option, analyzing the generated loan models with predetermined rules of a loan experience database, and generating a business plan consistent with the lender's selection; Rosenwald teaches a method and apparatus for managing interest on time deposits, loans, and financial instruments whose

value changes over time; and Stout teaches recording in memory information identifying time payments received from a debtor for principal and interest on a loan as the payments are made, and tracking the reduction in the principal balance of the loan and storing in the memory the principal balance in response to the time payments. Since there is no teaching nor suggestion for the combination of McCauley, Rosenwald, and Stout, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason also, Applicant requests that the Section 103 rejection of Claims 1-21 be withdrawn.

For at least the reasons set forth above, Applicant respectfully requests that the Section 103 rejection of Claims 1-21 be withdrawn.

The rejection of Claims 1-21 under 35 U.S.C. § 112, second paragraph is respectfully traversed. Applicant respectfully submits that Claims 1-21 satisfy section 112, second paragraph. Applicant has amended Claims 1, 4, 6, 7, 10, 11, 12, 13, 15, 18, 19, 20, and 21. It is therefore submitted that Claims 1-21 clearly and distinctly claim the subject matter of the present invention. Accordingly, Applicant respectfully requests that the rejection under Section 112, second paragraph be withdrawn.

Newly added Claims 22 and 23 depend from independent Claim 1, which is submitted in a condition for allowance and patentable. When the recitations of Claims 22 and 23 are considered in combination with the recitations of independent Claim 1, Applicant submits that dependent Claims 22 and 23 are also patentable over the cited art.

Newly added Claim 24 depends from independent Claim 7, which is submitted in a condition for allowance and patentable. When the recitations of Claim 24 are considered in combination with the recitations of independent Claim 7, Applicant submits that dependent Claim 24 is also patentable over the cited art.

Newly added Claim 25 depends from independent Claim 15, which is submitted in a condition for allowance and patentable. When the recitations of Claim 25 are considered in

combination with the recitations of independent Claim 15, Applicant submits that dependent Claim 25 is also patentable over the cited art.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Daniel M. Fitzgerald  
Daniel M. Fitzgerald  
Registration No. 38,880  
ARMSTRONG TEASDALE LLP  
One Metropolitan Square, Suite 2600  
St. Louis, Missouri 63102-2740  
(314) 621-5070



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Hartley C. Starkman : Art Unit: 3624  
Serial No.: 09/751,900 : Examiner: Geoffrey R. Akers  
Filed: December 29, 2000 :  
For: METHODS AND SYSTEMS :  
FOR DETERMINING ROLL :  
RATES OF LOANS :

**SUBMISSION OF MARKED UP CLAIMS**

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Submitted herewith are Marked Up Claims in accordance with 37 C.F.R. 1.121(c)(1)(ii).

1. (once amended) A method for determining roll rates for a group of loans, said method comprising the steps of:

generating delinquency moving matrices for the group of loans; [and]

calculating a probability that an event will occur impacting payment of at least one account within the group of loans; and

predicting a roll rate into a next level of delinquency based upon a payment history [behavior] of each account in the group of loans and based upon the calculated event probability.

4. (once amended) A method according to Claim 1 wherein said step of predicting a roll rate into a next level of delinquency [further comprises the step of] further comprises the step of [looking only at] analyzing accounts that roll forward into a next period of delinquency, due to non-payment.

6. (once amended) A method according to Claim 1 wherein said step of predicting a roll rate into a next level of delinquency [further comprises the step of] further comprises the step of

[looking only at]analyzing accounts that roll back one or more periods [f]of delinquency, due to extra received payment.

7. (once amended) A system for determining a roll rate of a loan portfolio, said system comprising:

at least one computer;

a server configured with a roll rate determination model, said server configured to:

generate delinquency moving matrices; [and]

calculate a probability that an event will occur impacting payment of at least one account within a group of loans; and

predict which accounts will roll forward into a next classification of delinquency based upon [individual account performance]a payment history of each account in the group of loans and based upon the calculated event probability; and

a network connecting said computer to said server.

10. (once amended) A system according to Claim 7 wherein said server is configured to analyze the[look only at] accounts that roll forward into a next period of delinquency, due to non-payment.

11. (once amended) A system according to Claim 10 wherein said server is configured to calculate a delinquency value that has increased from a first period to a second period for the accounts that roll forward into the next period of delinquency.

12. (once amended) A system according to Claim 7 wherein said server is configured to [look only at]analyze the accounts that roll back one or more periods of delinquency, due to extra received payment.

13. (once amended) A system according to Claim 7 wherein [said server configured to indicate a number of months an account is delinquent.]said server is configured to predict the accounts that will roll forward into an n-month delinquency, wherein n is an integer greater than

zero and represents a number of months for which one of the customers has been delinquent in making a payment.

15. (once amended) A computer for determining a roll rate of a loan portfolio, said computer programmed to:

generate delinquency moving matrices; [and]

calculate a probability that an event will occur impacting payment of at least one account within a group of loans; and

predict which accounts will roll forward into a next classification of delinquency based upon [individual account performance]a payment history of each account in the group of loans and based upon the calculated event probability.

18. (once amended) A computer according to Claim 15 wherein said computer is programmed to [look only at]analyze the accounts that roll forward into a next period of delinquency, due to non-payment.

19. (once amended) A computer according to Claim 18 wherein said computer is programmed to calculate a delinquency value that has increased from a first period to a second period for the accounts that roll forward into a next period of delinquency.

20. (once amended) A computer according to Claim 15 wherein said computer is programmed to [look only at]analyze the accounts that roll back one or more periods of delinquency, due to extra received payment.

21. (once amended) A computer according to Claim 15 [programmed to indicate a number of months an account is delinquent.]wherein said computer is programmed to predict the accounts that will roll forward into an n-month delinquency, wherein n is an integer greater than zero and represents a number of months for which one of the customers has been delinquent in making a payment.

Please add the following new claims:

22. (newly added) A method according to Claim 1 wherein said step of predicting a roll rate further comprises predicting the accounts in the group of loans that will be rolled forward into an n-month delinquency, wherein n is an integer greater than zero and represents a number of months for which one of the customers has been delinquent in making a payment.

23. (newly added) A method according to Claim 1 wherein said step of calculating a probability further comprises calculating a probability that an event will occur impacting payment of at least one account within the group of loans wherein the event includes at least one of a change in political climate, an increase in interest rate, and a natural disaster.

24. (newly added) A system according to Claim 7 wherein the event includes at least one of a change in political climate, an increase in interest rate, and a natural disaster.

25. (newly added) A computer according to Claim 15 wherein the event includes at least one of a change in political climate, an increase in interest rate, and a natural disaster.

Respectfully Submitted,

  
\_\_\_\_\_  
Daniel M. Fitzgerald  
Registration No. 38,880  
ARMSTRONG TEASDALE LLP  
One Metropolitan Square, Suite 2600  
St. Louis, Missouri 63102-2740  
(314) 621-5070